Quick Start Guide
RUC (Remote UPB Controller)
Web Mountain Technologies

Updated 1/4/2011

This document is intended to be used to allow a user to setup their newly acquired RUC unit and quickly start using it. If more details are needed, please refer to the full User's Manual located on the Web Mountain website, at:
http://www.webmtn.com/RUC/RUC-information.php.

Basic Setup

There's not much to this. Follow these steps:

1. Remove the RUC from its shipping container
2. Remove the SPIM from its shipping container and, using the supplied cord, connect the SPIM to the COM1 DB9 on the RUC. Plug the SPIM into a power outlet.
3. Connect an Ethernet patch cord from the Ethernet RJ45 jack on the RUC to your local Ethernet switch / router.
4. Take the included power supply, plug its cord into the power jack on the RUC, then plug the power supply into a power outlet.
5. On the end of the RUC where the Ethernet patch cord plugs in, you will see the LED closest to SW2 start blinking on about a 1 second interval. You will also see the Ethernet LEDs (on the RUC) blink to indicate activity and the port on the switch / router where the RUC is connected will show connection and activity with its LEDs.

Accessing the webserver of the test RUC

This is pretty easy. We will ship the RUC in its default mode of being a DHCP client. We're assuming that your LAN has a DHCP server on it, and the RUC will get an address from this DHCP server. To access the RUC's webserver, merely enter this address into your browser:

http://wmtruc

You might need to wait 5 minutes or so after powering up the RUC for the RUC's host name to be recognized by your network.

Once you try to access this website, you will be challenged for a user name and password. There are two logins you can use.

First, a normal user. The user name is wmtruc and the password is password.

Or, second, the administrative user. The user name is admin and the password is broncos.

If you log in as the normal user, you shouldn't be able to access the Admin webpage. Feel free to change the passwords, if you wish. To login as the Admin user, you will first need to close out of your browser and come back in.

Once you get in, you will see these pages:

- Home
- Networking Configuration

- Device Configuration
- Admin
- UPB Transmission (Use to send a UPB signal)
- Dynamic DNS
- UPB Receive
- UPB Trigger
- Control Panel

NOTE: Before proceeding to setup your RUC, it is highly recommended that you determine if there is a firmware update available for your RUC. To check this, look at the Home page in your browser and notice the firmware revision. It will appear something like 2.00.23. The last two digits are the important distinction. Now go to http://www.webmtn.com/RUC/RUC-information.php and look at the firmware download section towards the bottom of this page. The file name will include something like V23 in it. If this number is higher than the number on your Homepage, we recommend updating your firmware. To update your firmware, please refer to the procedure shown later in this document.

Upstart over the LAN / Internet

One of the main purposes of the RUC is to basically create an Ethernet PIM. Now, you can locate the PIM anywhere you want to on your LAN, or even on the Internet, and use it to run Upstart over a network, rather than being constrained to the physical location where the PC is located. This is one of the main features we want you to test out.

> **CAUTION:** It should be noted that UPStart operation over a network may not be quite as robust as on a hard-wired PIM. If you are having problems, a retry or two of the test you are trying to run should get you accurate results. It is strongly encouraged that the user configure Upstart slightly differently than normal - select "Ask if verify should be performed" or "Never perform verify at startup" on the UPStart File options tab rather than "Always perform verify at startup". It is also strongly suggested that the user do individual device verifies rather than network verifies whenever possible. Smaller chunks of testing will perform better than larger chunks, especially in the situation where there is some congestion on the network.

Introduction to Upstart

In case you are not familiar with the UPB setup and programming tool, Upstart, Upstart is a Windows based program that is used to setup your initial UPB network, then program and add devices to that network. In order to use Upstart, you must connect a serial or USB PIM (PC Interface Module) to the PC running Upstart. This PIM must be plugged into a power outlet so that it can be used to transmit and receive signals from the PC to and from the powerline network.

UPB is a powerline home automation protocol. Signals are sent over the powerline to control lights and appliances. However, the devices that are used to control these lights and appliances must be programmed to behave in the fashion you desire. That's the purpose of Upstart.

In addition, Upstart provides some of the best, if not the best, diagnostic tools as compared to other home automation technologies.

The most common way of using Upstart is with a local PC connected to either a serial or USB PIM which is plugged into an outlet in the house. In many cases, this is inconvenient, in that the location where you are plugged in with the PIM in order to program devices might not be the final location or the best location for the PIM, in terms of signal strength, and if you are programming a large number of units, you are constantly moving your laptop, causing you to constantly reconnect to the PIM, thereby dramatically reducing your productivity.

The RUC unit, used as an Ethernet PIM with Upstart, can greatly improve your productivity.

Acquiring Upstart

Upstart is a freely downloadable program from the Web Mountain website. Just go to www.webmtn.com, click on Support, then click on Downloads. Register with your email address, then download the file. This file is a compressed zip file, so you will need to decompress the file somewhere on your PC, then double click on the icon for the program to start the installation process on your PC. You should be on version 5.1 Build 45 at a minimum.

Using a Virtual Serial Port

When using Upstart locally, you merely connect the serial or USB PIM to the PC you are running Upstart on. Then, within Upstart, you tell the software if you are USB, or what COM port the PIM is connected to. Since there is no local connection when using the RUC, we want to "fool" Upstart into thinking there is.

We're going to use a piece of software that creates a virtual serial port. The recommended software is HW-VSP from The Hardware Group, freeware that can be downloaded from this site:

http://www.hw-group.com/products/hw_vsp/index_en.html

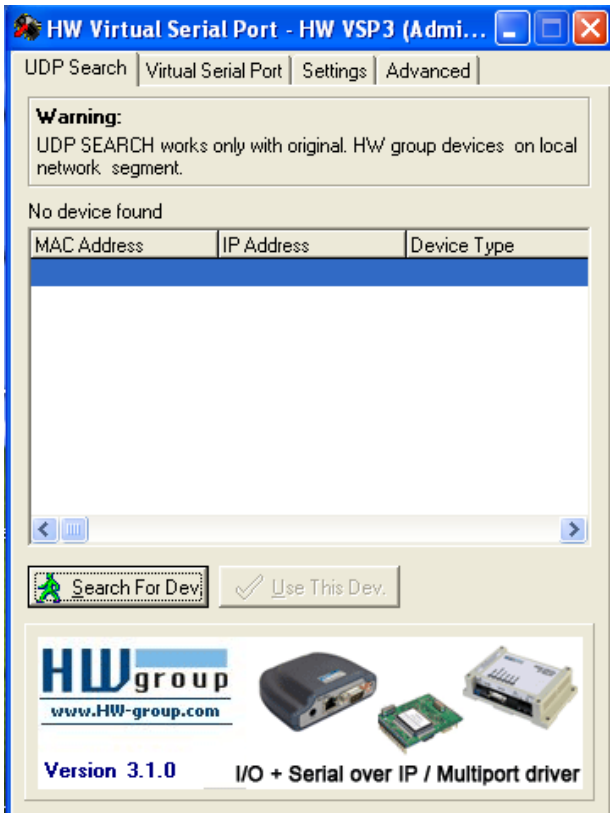
Download the latest version and install it on the computer that will run Upstart. When installing HW VSP, make sure you select Standalone installation (not client server) and if it asks you if you want to add these applications to your firewall, say No. Also, tell HW VSP to place an icon on your Desktop.

Connecting the PIM

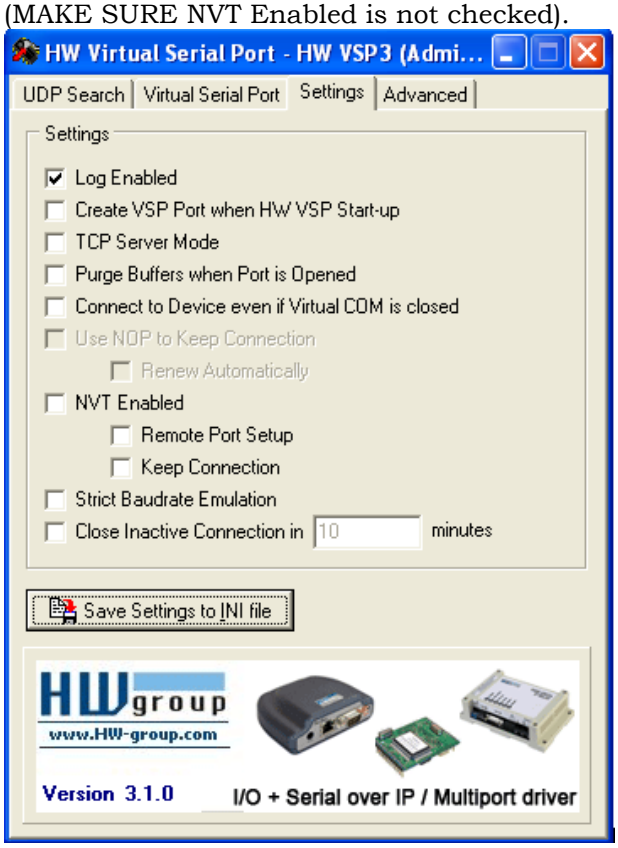
Now that we have all of the necessary software components, let's get the hardware connected. If you haven't already connected a SPIM, take your WMT SPIM-01 and connect the supplied serial cable to the DB9 connector on the bottom of the unit. Then, take the other end of the serial cable and connect it to the DB9 connector on the RUC unit labeled COM1.

Running Remote Upstart

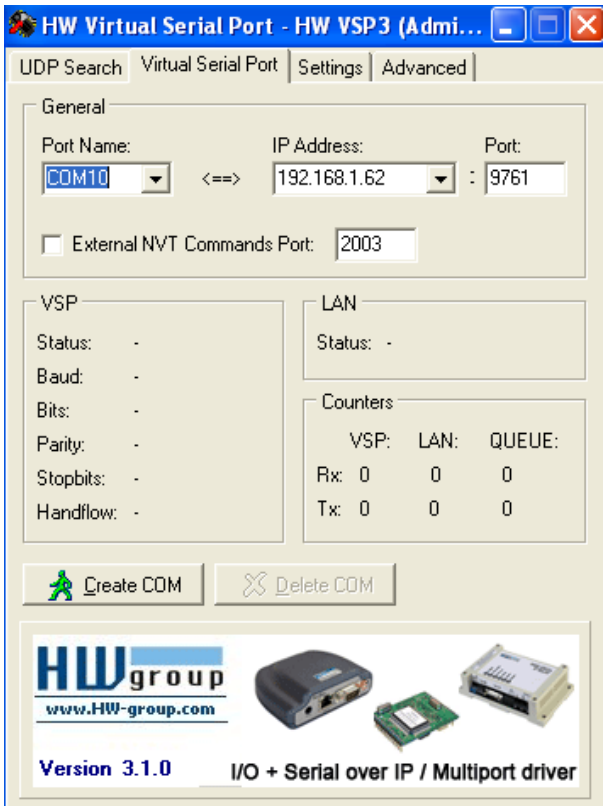
Now, double click on the icon on your desktop for HW-VSP. It will bring up a pop-up window that looks like this:



Click on the tab marked Settings and make this page look like this: (MAKE SURE NVT Enabled is not checked).



Click on Save Settings to INI file. Then, click on the tab for Virtual Serial Port.

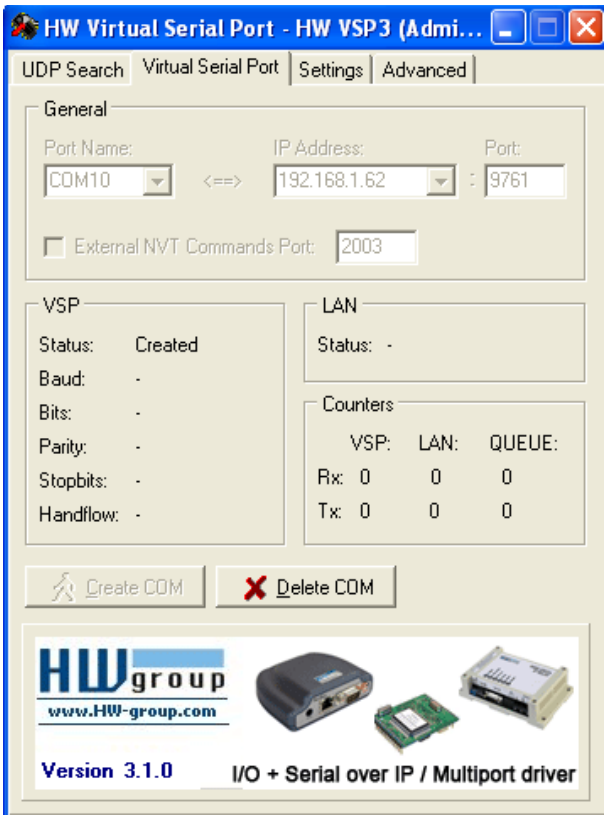


Select a COM port you want to use. Make sure it is high enough that it doesn't interfere with one of the hardware COM ports on your PC. Notice that we used COM10.

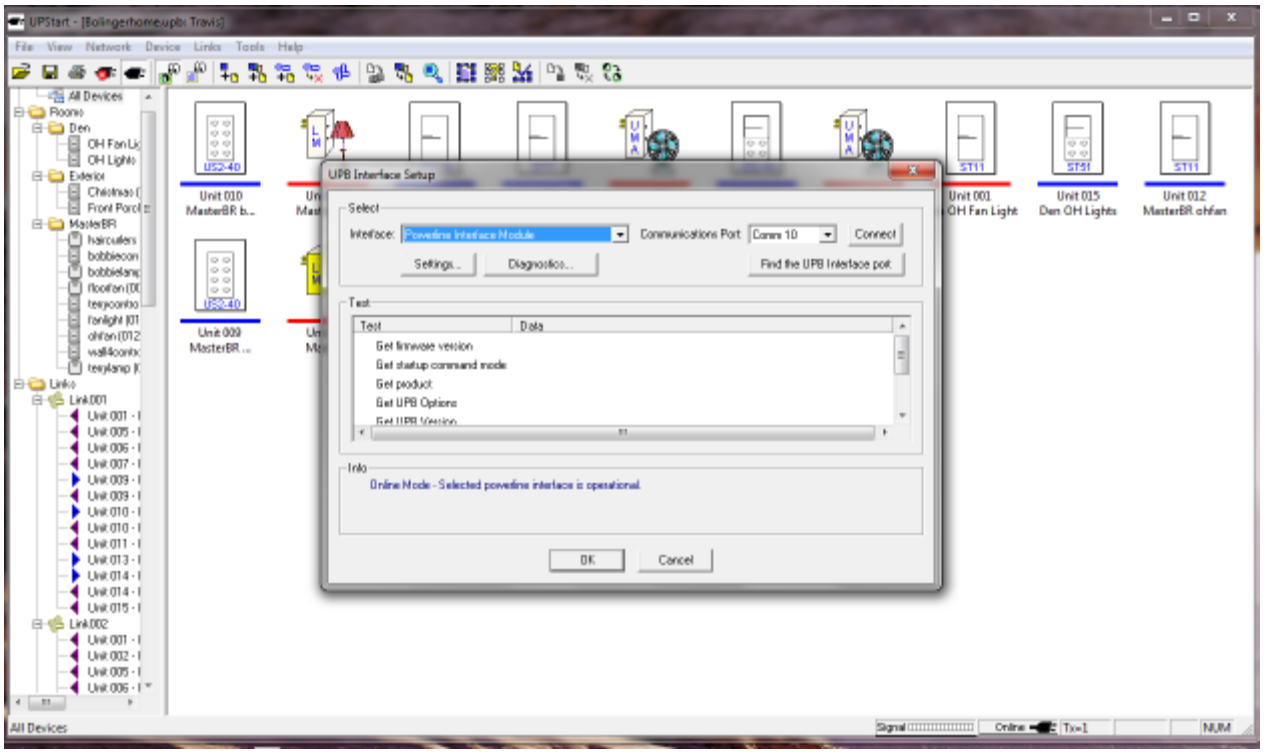
If you are using the RUC on your local LAN, enter your RUC's IP address – not the one shown above:
xxx.xxx.xxx.xxx (found on the Networking Configuration page)

Then, you need the port # that the RUC will be using to convert serial traffic onto the TCPIP network. By default, the RUC is set to 9761. At the current time, this cannot be changed.

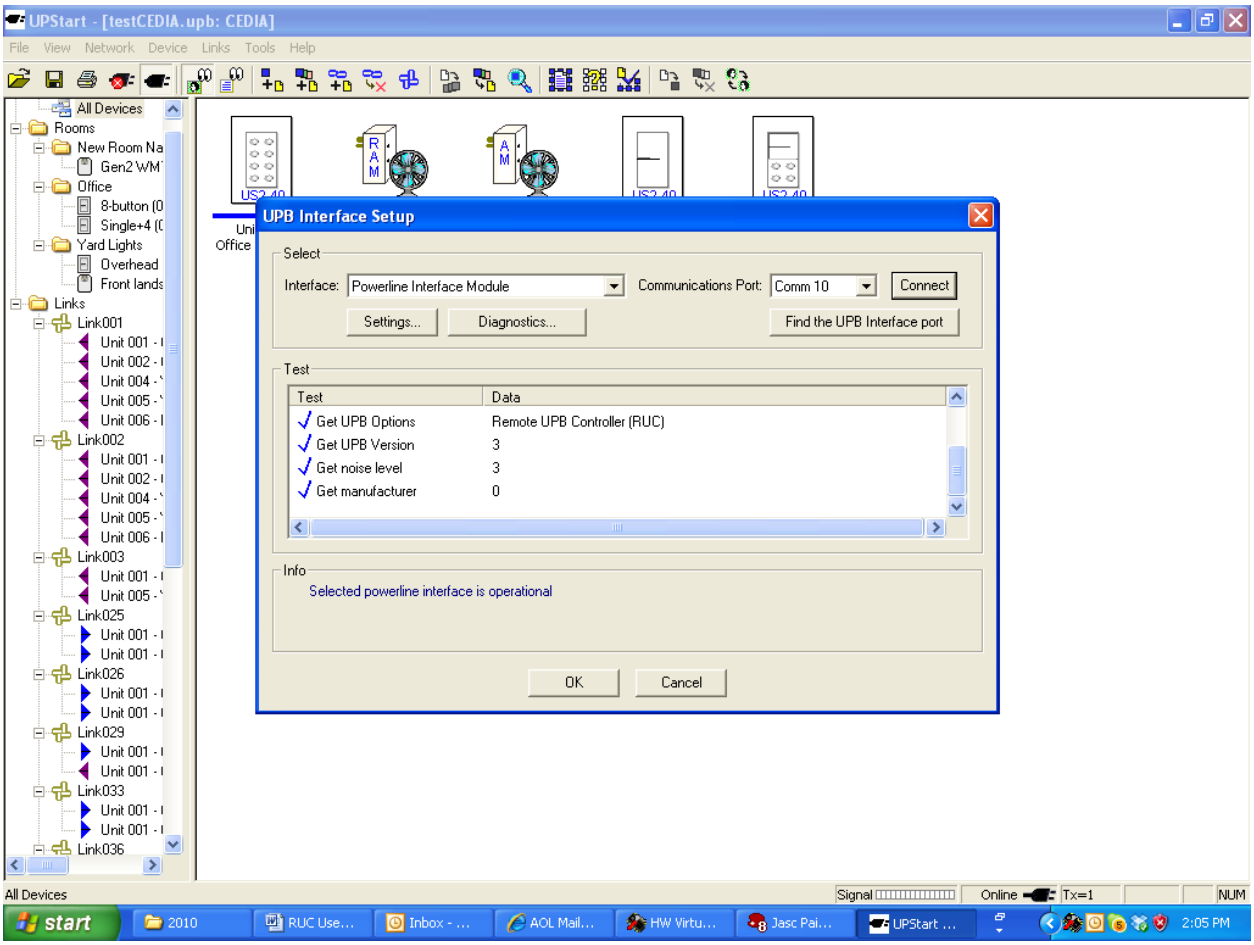
Now, click on the CREATE COM button. You will see this:



Now, open Upstart. Upstart will probably give you an error message that it can't communicate with the PIM. Click out of these pop ups and get to the main screen of Upstart. Click on Tools, UPB Interface Device, Select. You will see this screen. Set the type of PIM to Powerline Interface Module, then select the COM port to be the COM port you selected above in HW-VSP (Upstart should show it to you in the list of available serial ports). Then, click on CONNECT.



If Upstart connects to the PIM correctly, you will see blue checkmarks on the left and a message that says “Selected Powerline Interface is Operational”.



Now, you can start using Upstart as normal.

To use Upstart and the RUC over the Internet, make these changes.

On the VSP screen where you entered in the LAN IP address, enter in the WAN IP address of the location where the RUC is located that you want to connect to. That address might be something like 24.8.xxx.xxx. To get this address, you can go to www.ipchicken.com or similar website.

Now, assuming this location has a router installed, you will need to open a port in your router to route port 9761 to the RUC. Typically, this will be called Port Forwarding in the router. If you don't already have port 80 opened, you can forward this port to the RUC also, so that you can remotely access it's webpages. Refer to your router manual for instructions on how to open the firewall port.

Other Features

Please see the User's Manual for details on how to use the other features of the RUC, such as DYNDNS. The current User's Manual can be found at http://www.webmtn.com/RUC/RUC User's Guide.pdf. Recognize that this manual is a work in progress, so there will be constant changes and updates to it.

Using Trigger Events

A couple of quick comments about using the UPB Trigger webpage. The intention of the UPB Trigger page is that when the RUC sees a UPB signal on the powerline, it will monitor that signal and compare it against its database, and take an action based upon its programming. For example, we could program the unit such that when it recognizes Activate Link 21, it should wait 5 seconds and then send a Deactivate Link 21. Or, when it sees Deactivate Link 32, it will send an email to you indicating the garage door has been closed.

The top part of the Trigger Event screen defines what the trigger UPB signal is while the bottom half indicates what should happen upon receipt of that trigger – i.e., send another UPB signal, or send an email. As you can see, you can also add in a delay between the receipt of the trigger signal and the action signal.

Also, one selection on the top part is "Sched". This allows the RUC to send a UPB signal based upon a time of day.

Also, recognize that you can't send the trigger signal from the RUC – the trigger signal must come from a source other than the RUC.

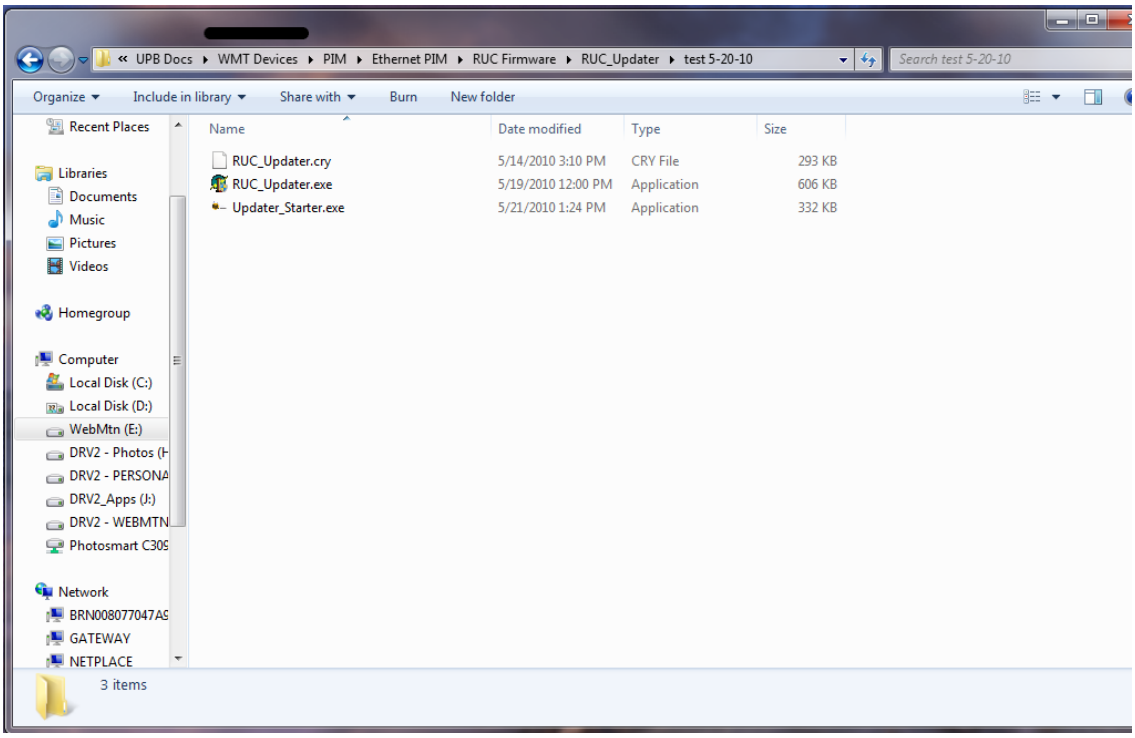
Updating Firmware

This chapter provides information about updating your RUC with new firmware. From time to time, WMT will provide new, enhanced firmware that will offer new features for your RUC. This new firmware will be provided through our website, via email, or on a CD.

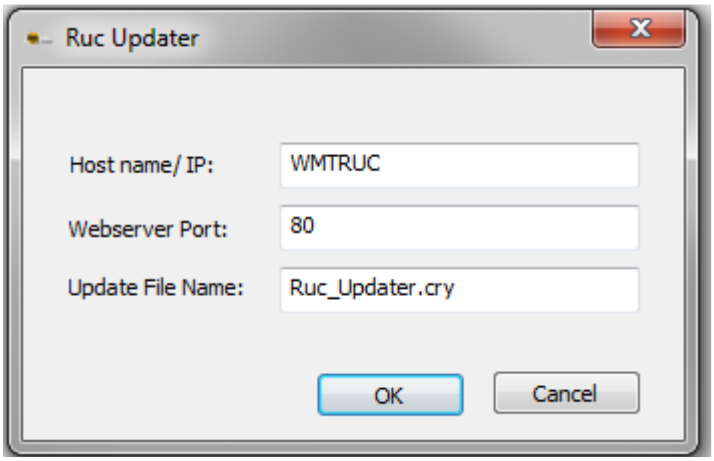
Before attempting to upgrade your firmware, make sure you look at all your settings and record them so that you can reenter them once the firmware update is complete. Later versions of the firmware do provide a Backup / Restore function to allow you to easily backup then restore your settings once you've done a firmware update.

NOTE: It is important that the Updating process not get interrupted. If you are using a laptop that might go to sleep or hibernate after some period of inaction from the mouse or keyboard, either disable this, or move your mouse occasionally to prevent the laptop from going to sleep.

To start, first download the RUC_Updater zip file from our website or load it from the CD. Extract it on to a location on your local PC. Here is what you should see in the folder once it's extracted. (If you look at this folder after the update process, you will see that there is one more file, an ini file, that the process created. This is normal and nothing to worry about).

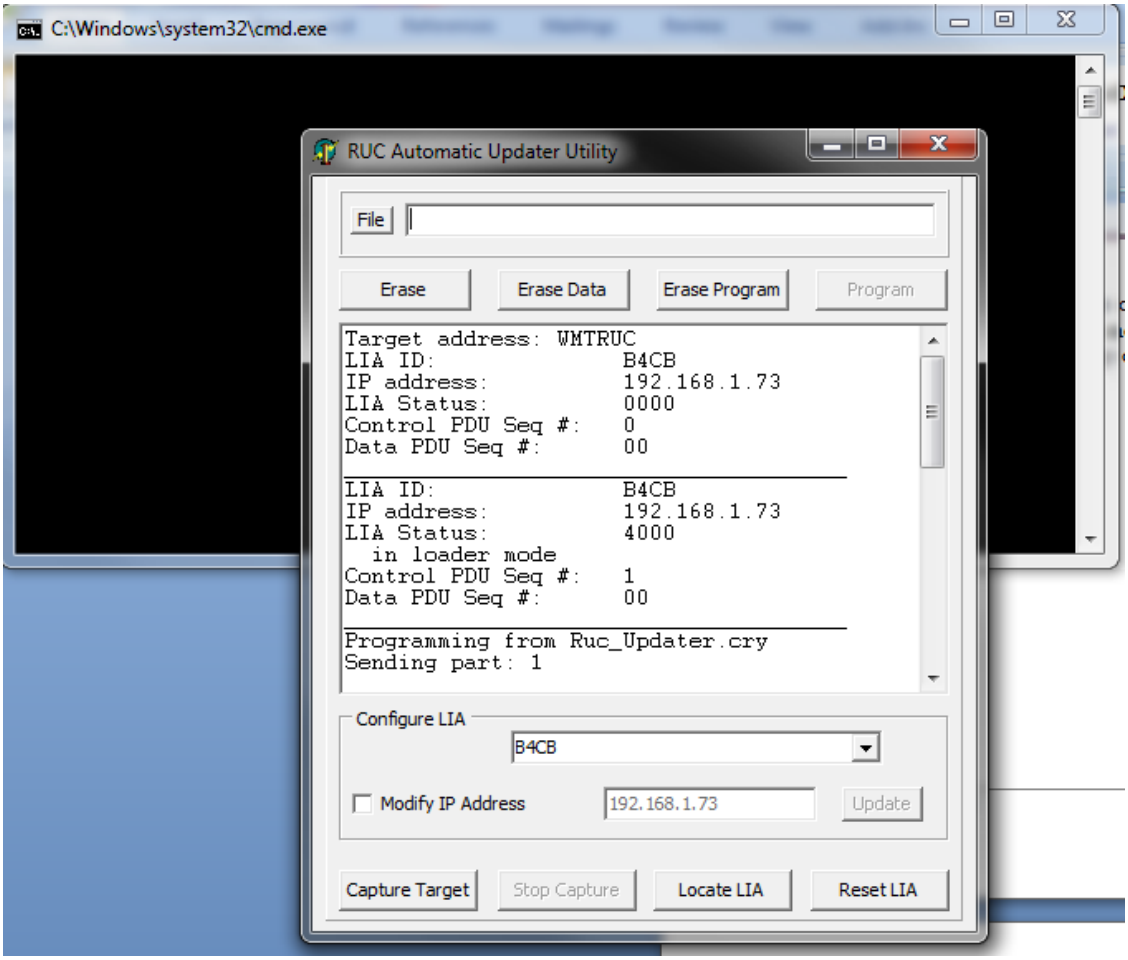


Now, double click on Updater_Starter.exe to run the program. This window will pop up. In most cases, you can accept the defaults, however, if you have changed any of these parameters, you will need to update them in the screen.

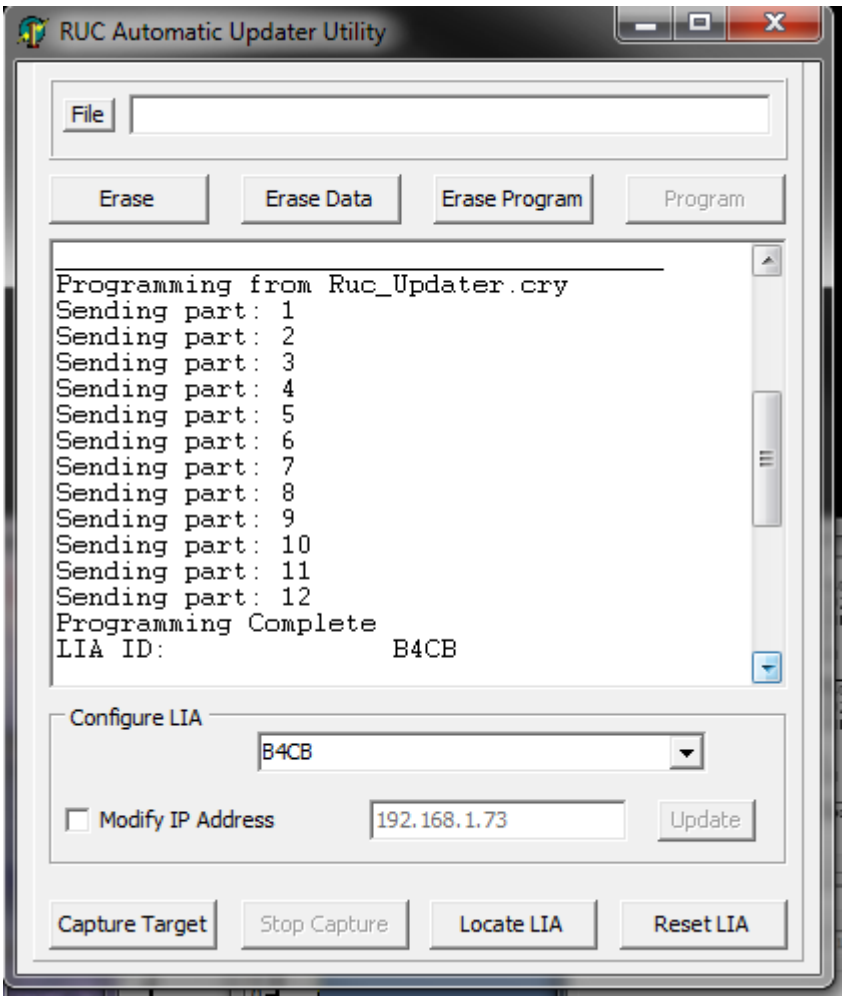


Click OK.

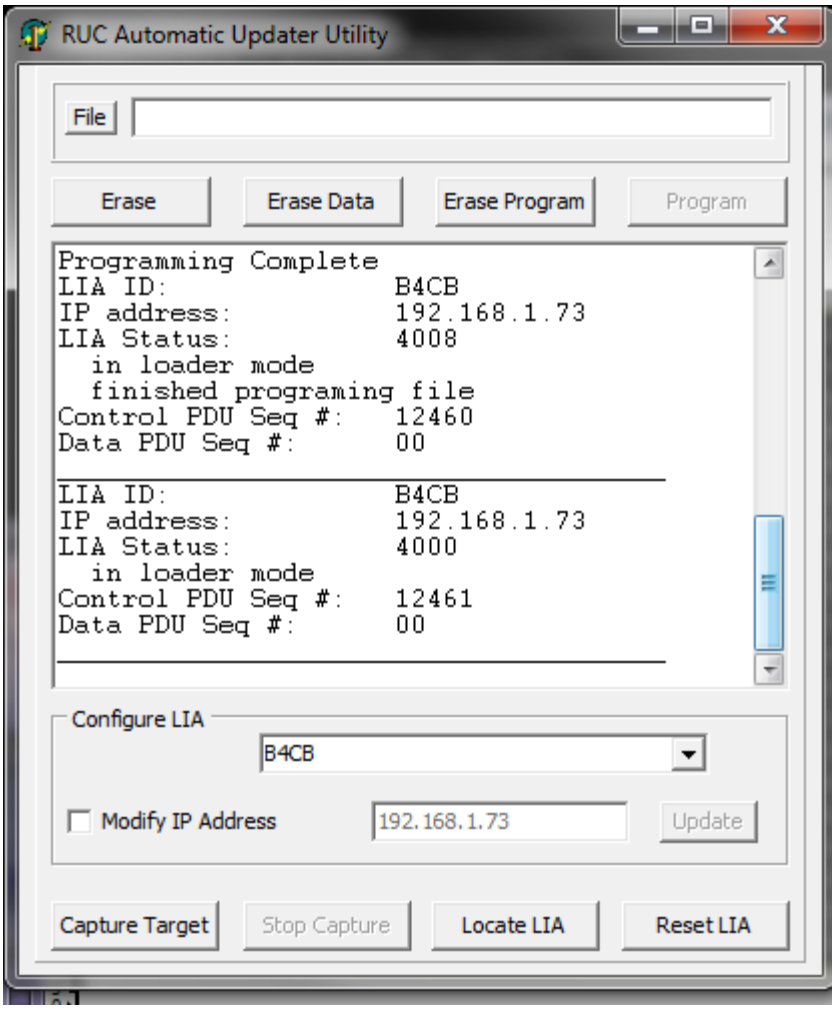
Now the application will start and first connect to the RUC. You will see this screen:



Notice that it says Programming from Ruc_Updater.cry. The unit has connected and is now programming. Also, see the very last line. This gives you an indication that the programming is occurring. Here is an updated screenshot showing progress:



Notice that it tells you that programming is complete. Also, recognize that depending upon the update, there could be more lines that 12. Here is the final screenshot showing final results:



Now, you're done and have successfully programmed your RUC with the updated firmware. Merely click on the "X" in the right hand corner to shut down the application.

Now, you should do a factory reset on the unit. Hold both S1 and S2 down, after a few seconds release S1. One of the LEDs will flash quickly. After a few seconds, both LEDs will flash 3 times. After a few more seconds, both LEDs will flash 6 times. Now, you can release S2. The process is complete. At this point, you can reenter any settings that you had before.

Summary

In conclusion, this document should allow you to get your new RUC unit up and running very quickly. If you need more detailed information, please see the full manual on the WMT website. And, if you have any issues, or need technical support, please contact Web Mountain at info@webmtn.com or at 303-627-1856.